

PATENT COOPERATION TREATY

EO/US
PCT/US00/20662

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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing: 08 February 2001 (08.02.01)	
International application No.: PCT/US00/20662	Applicant's or agent's file reference: AA414M/MH
International filing date: 28 July 2000 (28.07.00)	Priority date: 29 July 1999 (29.07.99)
Applicant: VENKATESWARAN, Ananthanarayan et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:
27 October 2000 (27.10.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer: J. Zahra Telephone No.: (41-22) 338.83.38
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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference AA414M/MH	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 20662	International filing date (day/month/year) 28/07/2000	(Earliest) Priority Date (day/month/year) 29/07/1999
Applicant THE PROCTER & GAMBLE COMPANY		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of Invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

US 00/20662

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K7/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 13833 A (THE PROCTER & GAMBLE CO.) 25 March 1999 (1999-03-25) claim 1; examples 12,14 ---	1-3,5-10
X	US 5 807 545 A (T. COFFINDAFFER ET AL.) 15 September 1998 (1998-09-15) claim 1; examples IX,XIII-XIX ---	1-3,5-10
X	WO 92 16187 A (THE PROCTER & GAMBLE CO.) 1 October 1992 (1992-10-01) claim 1; examples 10,15 ---	1-3
X	WO 96 17917 A (THE PROCTER & GAMBLE CO.) 13 June 1996 (1996-06-13) the whole document -----	1-3

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

10 November 2000

Date of mailing of the international search report

22/11/2000

Name and mailing address of the ISA

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Authorized officer

Glikman, J-F

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

US 00/20662

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9913833	A	25-03-1999	AU 4584197 A AU 8819098 A BR 9812818 A EP 1028697 A WO 9913823 A	05-04-1999 05-04-1999 08-08-2000 23-08-2000 25-03-1999
US 5807545	A	15-09-1998	US 5807543 A US 5843418 A US 5855878 A AT 131033 T AU 1664992 A BR 9205780 A CA 2106060 A CN 1067174 A,B CZ 9301944 A DE 69206609 D DE 69206609 T DK 576578 T EP 0576578 A ES 2081106 T FI 934077 A GR 3018378 T HU 65875 A JP 6506214 T MX 9201198 A NO 933282 A NZ 242025 A PT 100267 A SK 100493 A TR 27990 A WO 9216187 A	15-09-1998 01-12-1998 05-01-1999 15-12-1995 21-10-1992 28-06-1994 20-09-1992 23-12-1992 16-03-1994 18-01-1996 08-08-1996 06-05-1996 05-01-1994 16-02-1996 02-11-1993 31-03-1996 28-07-1994 14-07-1994 01-08-1993 19-11-1993 28-03-1995 30-07-1993 07-09-1994 13-11-1995 01-10-1992
WO 9216187	A	01-10-1992	AT 131033 T AU 1664992 A BR 9205780 A CA 2106060 A CN 1067174 A,B CZ 9301944 A DE 69206609 D DE 69206609 T DK 576578 T EP 0576578 A ES 2081106 T FI 934077 A GR 3018378 T HU 65875 A JP 6506214 T MX 9201198 A NO 933282 A NZ 242025 A PT 100267 A SK 100493 A TR 27990 A US 5843418 A US 5807545 A US 5855878 A	15-12-1995 21-10-1992 28-06-1994 20-09-1992 23-12-1992 16-03-1994 18-01-1996 08-08-1996 06-05-1996 05-01-1994 16-02-1996 02-11-1993 31-03-1996 28-07-1994 14-07-1994 01-08-1993 19-11-1993 28-03-1995 30-07-1993 07-09-1994 13-11-1995 01-12-1998 15-09-1998 05-01-1999
WO 9617917	A	13-06-1996	BR 9509947 A	27-01-1998

INTERNATIONAL SEARCH REPORT

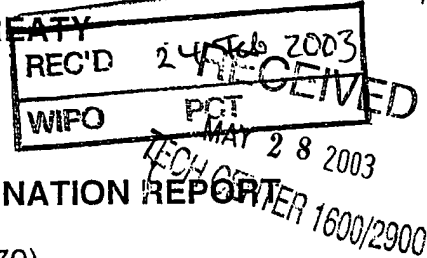
Information on patent family members

International Application No

US 00/20662



Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9617917 A		CA 2206339 A	13-06-1996
		CN 1174565 A	25-02-1998
		CN 1174567 A	25-02-1998
		EP 0799292 A	08-10-1997
		EP 0794997 A	17-09-1997
		JP 10509991 T	29-09-1998
		WO 9617916 A	13-06-1996
		US 5910472 A	08-06-1999
		US 5905062 A	18-05-1999

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AA414M/MH		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/20662	International filing date (day/month/year) 28/07/2000	Priority date (day/month/year) 29/07/1999	
International Patent Classification (IPC) or national classification and IPC A61K7/06			
Applicant THE PROCTER & GAMBLE COMPANY			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 7 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none">I <input checked="" type="checkbox"/> Basis of the reportII <input type="checkbox"/> PriorityIII <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicabilityIV <input checked="" type="checkbox"/> Lack of unity of inventionV <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statementVI <input type="checkbox"/> Certain documents citedVII <input type="checkbox"/> Certain defects in the international applicationVIII <input checked="" type="checkbox"/> Certain observations on the international application			
Date of submission of the demand 27/10/2000		Date of completion of this report 06.07.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Yon, J-M Telephone No. +49 89 2399 7535 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/20662

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-37 as originally filed

Claims, No.:

1-13 with telefax of 21/06/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/20662

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:
see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-13
	No: Claims
Inventive step (IS)	Yes: Claims
	No: Claims 1-13
Industrial applicability (IA)	Yes: Claims 1-13
	No: Claims

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US00/20662

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US00/20662

1. Reference is made to the following documents from the search report :

- D1:** WO 99 13833 A (THE PROCTER & GAMBLE CO.) 25 March 1999 (1999-03-25)
- D2:** US-A-5 807 545 (THE PROCTER & GAMBLE CO.) 15 September 1998 (1998-09-15)
- D3:** WO 92 16187 A (THE PROCTER & GAMBLE CO.) 1 October 1992 (1992-10-01)
- D4:** WO 96 17917 A (THE PROCTER & GAMBLE CO.) 13 June 1996 (1996-06-13)

Re Item IV

Lack of unity of invention

2. The present application lacks unity within the meaning of Rule 13.1 PCT, because the common concept linking together the three independent product claims (1, 2 and 3), namely a hair conditioning composition comprising :

- a) a hydrophobically modified cellulose ether
- b) a high melting point fatty compound and
- c) an aqueous carrier

has already been disclosed in documents **D1** to **D4** and therefore does not satisfy the requirements of Article 33(2) PCT.

The special technical features , representing the contribution over the prior art, with respect to this concept :

- 1) a specific cationic polymer (independent claim 1)
- 2) a polypropylene glycol (independent claim 2)
- 3) an amidoamine with an acid (independent claim 3)

38-C

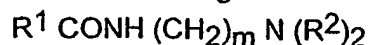
SUBSTITUTE PAGE

3 M. A hair conditioning composition comprising by weight:

- (a) from about 0.001% to about 2% of a hydrophobically modified cellulose ether comprising a hydrophilic cellulose backbone and a hydrophobic substitution group; the hydrophilic cellulose backbone being water soluble and selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof; and having grafted thereto the hydrophobic substitution group to render the hydrophobically modified cellulose ether to have less than 1% water solubility, the hydrophobic substitution group selected from a straight or branched chain alkyl group of from about 10 to about 22 carbons; wherein the ratio of the hydrophilic groups in the hydrophilic cellulose backbone to the hydrophobic substitution group being from about 2:1 to about 1000:1;
- (b) from about 0.1% to about 15% of a high melting point fatty compound having a melting point of 25°C or higher;
- (c) ~~from about 0.1% to about 10% of a cationic conditioning agent having saturated alkyl groups; and~~
- (d) an aqueous carrier.

(C) from about 0.55% to about 7% of the cationic conditioning agent; the cationic conditioning agent comprising:

an amidoamine having the following general formula:



wherein R^1 is a residue of C_{11} to C_{24} fatty acids, R^2 is a C_1 to C_4 alkyl, and m is an integer from 1 to 4; and an acid selected from the group consisting of L-glutamic acid, lactic acid, hydrochloric acid, malic acid, succinic acid, acetic acid, fumaric acid, L-glutamic acid hydrochloride, tartaric acid, and mixtures thereof.

38- D

SUBSTITUTE PAGE

4 ~~4~~. The hair conditioning composition according to ~~claim 1~~ ^{any of Claims 1-3} comprising from about 0.1% to about 0.5% of the hydrophobically modified cellulose ether.

5 ~~4~~. The hair conditioning composition according to ~~claim 1~~ ^{any of Claims 1-3} wherein the hydrophobically modified cellulose ether has a cetyl group substitution of about 0.4% to about 0.65% by weight.

4. The hair conditioning composition according to Claim 1 further comprising from about 0.001% to about 5% of a cationic polymer selected from the group consisting of;

a hydrophobically modified cationic cellulose having the following formula:

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SUBSTITUTE PAGE

2, wherein each e is independently a value of 0 or 1, wherein each x, y, and z is independently a value of from about 7 to about 100, and wherein $x + y + z$ is greater than about 20.

any of Claims 1-3

6. The hair conditioning composition according to Claim 1 further comprising a rheology modifier selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof.

7. The hair conditioning composition according to Claim 1 comprising by weight from about 0.55% to about 7% of the cationic conditioning agent; the cationic conditioning agent comprising:

an amidoamine having the following general formula:



wherein R^1 is a residue of C_{11} to C_{24} fatty acids, R^2 is a C_1 to C_4 alkyl, and m is an integer from 1 to 4; and an acid selected from the group consisting of L-glutamic acid, lactic acid, hydrochloric acid, malic acid, succinic acid, acetic acid, fumaric acid, L-glutamic acid hydrochloride, tartaric acid, and mixtures thereof.

any of Claims 1-3

7. The hair conditioning composition according to Claim 1 further comprising by weight from about 0.1% to about 10% of a low melting point oil having a melting point of less than 25°C .

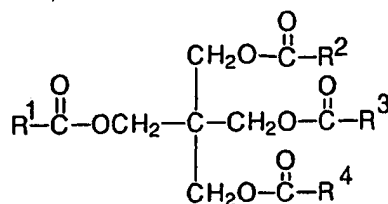
Claim 7

8. The hair conditioning composition according to Claim 7 wherein the low melting point oil is an unsaturated fatty alcohol.

Claim 7

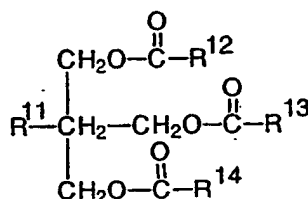
9. The hair conditioning composition according to Claim 8 wherein the low melting point oil is selected from the group consisting of:

(a) pentaerythritol ester oils having a molecular weight of at least about 800, and having the following formula:

SUBSTITUTE PAGE

wherein R^1 , R^2 , R^3 , and R^4 , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

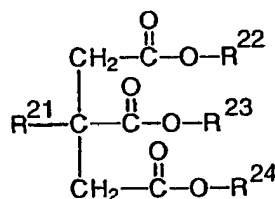
(b) trimethylol ester oils having a molecular weight of at least about 800, and having the following formula:



wherein R^{11} is an alkyl group having from 1 to about 30 carbons, and R^{12} , R^{13} , and R^{14} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

(c) poly α -olefin oils derived from 1-alkene monomers having from about 6 to about 16 carbons, the poly α -olefin oils having a viscosity of from about 1 to about 35,000 cst, a molecular weight of from about 200 to about 60,000, and a polydispersity of no more than about 3;

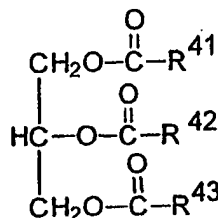
(d) citrate ester oils having a molecular weight of at least about 500, and having the following formula:



wherein R^{21} is OH or CH_3COO , and R^{22} , R^{23} , and R^{24} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

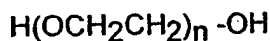
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(e) glyceryl ester oils having a molecular weight of at least about 500, and having the following formula:



wherein R^{41} , R^{42} , and R^{43} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons; and mixtures thereof.

- 10 *AM* The hair conditioning composition according to *any of Claims 1-3* further comprising by weight from about 0.1% to about 10% of a polyethylene glycol having the formula:



wherein n has an average value of from about 2,000 to about 14,000.

- 11 *AM* The hair conditioning composition according to any of *Claims 1-3* further comprising by weight from about 0.1% to about 20% of a cationic silicone emulsion comprising by weight of the cationic silicone emulsion from about 1% to about 20% of a cationic surfactant; and an emulsifiable amount of a silicone compound having a particle size of less than about 50 microns.

- 12 *AM* A method of preparing a hair conditioning composition according to any of *Claims 1-3* comprising the steps of:
- (a) mixing the high melting point fatty compound, the cationic conditioning agent, and the aqueous carrier at a temperature of at least about 70°C;
 - (b) cooling the mixture obtained in step (a) to below about 60°C;
 - (c) adding the hydrophobically modified cellulose ether to the cooled mixture obtained in step (b); and
 - (d) mixing until a homogeneous composition is obtained.

- 13 *AM* A method of increasing hair volume by applying the hair conditioning composition according to any of *Claims 1-3* to the hair.

*Claims 1-3*⁴²